



Comparison of Z-scan and THG derived nonlinear index of refraction in selected organic solvents

Submitted by Emmanuel Lemoine on Tue, 02/04/2014 - 16:15

Titre	Comparison of Z-scan and THG derived nonlinear index of refraction in selected organic solvents
Type de publication	Article de revue
Auteur	Rau, Ileana [1], Kajzar, François [2], Luc, Jérôme [3], Sahraoui, Bouchta [4], Boudebs, Georges [5]
Editeur	Optical Society of America
Type	Article scientifique dans une revue à comité de lecture
Année	2008
Langue	Anglais
Date	2008/10
Numéro	10
Pagination	1738 - 1747
Volume	25
Titre de la revue	Journal of the Optical Society of America B
ISSN	0740-3224
Mots-clés	Nonlinear optics, materials [6], Optical nonlinearities in organic materials [7]
Résumé en anglais	Nonlinear index of refraction of a series of organic solvents, measured by the nonlinear imaging (z-scan) technique, is compared with the same values derived from optical third-harmonic generation (THG). The systematic differences in the values obtained from the z-scan measurements and from THG are attributed to three factors: the value of the standard used in THG measurements, important rotational contribution in z-scan measurements, and the difference in dispersion for n_2 derived from Kerr susceptibility and those derived from THG measurements. Using the recently proposed standard silica susceptibility value, one obtains a very good agreement for silica and significant differences for the solvents, particularly for CS ₂ and chlorobenzene. A correction based on a three-level model for centrosymmetric media is applied for dispersion.
URL de la notice	http://okina.univ-angers.fr/publications/ua2084 [8]
DOI	10.1364/JOSAB.25.001738 [9]
Lien vers le document	http://dx.doi.org/10.1364/JOSAB.25.001738 [9]

Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=2667](http://okina.univ-angers.fr/publications?f[author]=2667)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=2745](http://okina.univ-angers.fr/publications?f[author]=2745)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=2750](http://okina.univ-angers.fr/publications?f[author]=2750)
- [4] <http://okina.univ-angers.fr/bouchta.sahraoui/publications>

- [5] <http://okina.univ-angers.fr/g.bou/publications>
- [6] [http://okina.univ-angers.fr/publications?f\[keyword\]=4835](http://okina.univ-angers.fr/publications?f[keyword]=4835)
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=4962](http://okina.univ-angers.fr/publications?f[keyword]=4962)
- [8] <http://okina.univ-angers.fr/publications/ua2084>
- [9] <http://dx.doi.org/10.1364/JOSAB.25.001738>

Publié sur *Okina* (<http://okina.univ-angers.fr>)